MANAGEMENT SCIENCES *for* HEALTH

RPM Plus | Rational Pharmaceutical Management Plus

Quantifying & Costing ARVs Requirements

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Why Quantify?

- Prepare and justify a medicine budget

- Plan for new and expanding programs

- Optimize medicines budget based on priority health problems to be treated and the most cost-effective treatment approaches

- Typically, in a health program, medicines are the largest variable expenditure. In terms of total cost they are the second most expensive item after personnel

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Why Quantify? (cont'd)

- Calculate emergency needs for disaster relief and epidemics

- Re-supply an existing supply network that has become depleted of products

- Introduction of new Standard treatment Guidelines (STGs)

- Compare current medicines consumption with public health priorities and usage in other health systems

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Definition

- Quantification:
  - ~ Quantification is the process used "to determine the quantity" or "to express a property that is measurable."
  - ~ Quantification of medicines and medical supplies involves estimating how much of a specific item is needed and the financial means required to obtain it

- Two Main Methods:
  - ~ Consumption Based Method
  - ~ *Morbidity based Method*

Morbidity-based Method & ART

Estimated Number of Patients

Per Treatment Episode

X

Number of Medicines per Treatment Episodes

=

Total Quantity of Medicines Required

• No of Patients per Treatment Episode for ARVs

• Variations within each protocol, which are dependent on individual patient factors

• No historical data and variations of the prevalence for the health condition

• Take 2-3 years to reach everybody needing treatment as capacity needed to be added to each site

ARVs Quantification using Morbidity Method

- WHAT WE KNOW
    - ~ National Standard Treatment Guidelines
        - – First Line Medicines
        - – Second Line Medicines
        - – PEP & PMTCT regimens
    - ~ Cost of Medicines
    - ~ Budget?
    - ~ Number of Accredited Sites

- WHAT WE DO NOT KNOW
    - ~ Patients Intake
    - ~ Distribution of Treatment Regimens among patients
    - ~ New Number of Accredited Sites?

Adult patient numbers
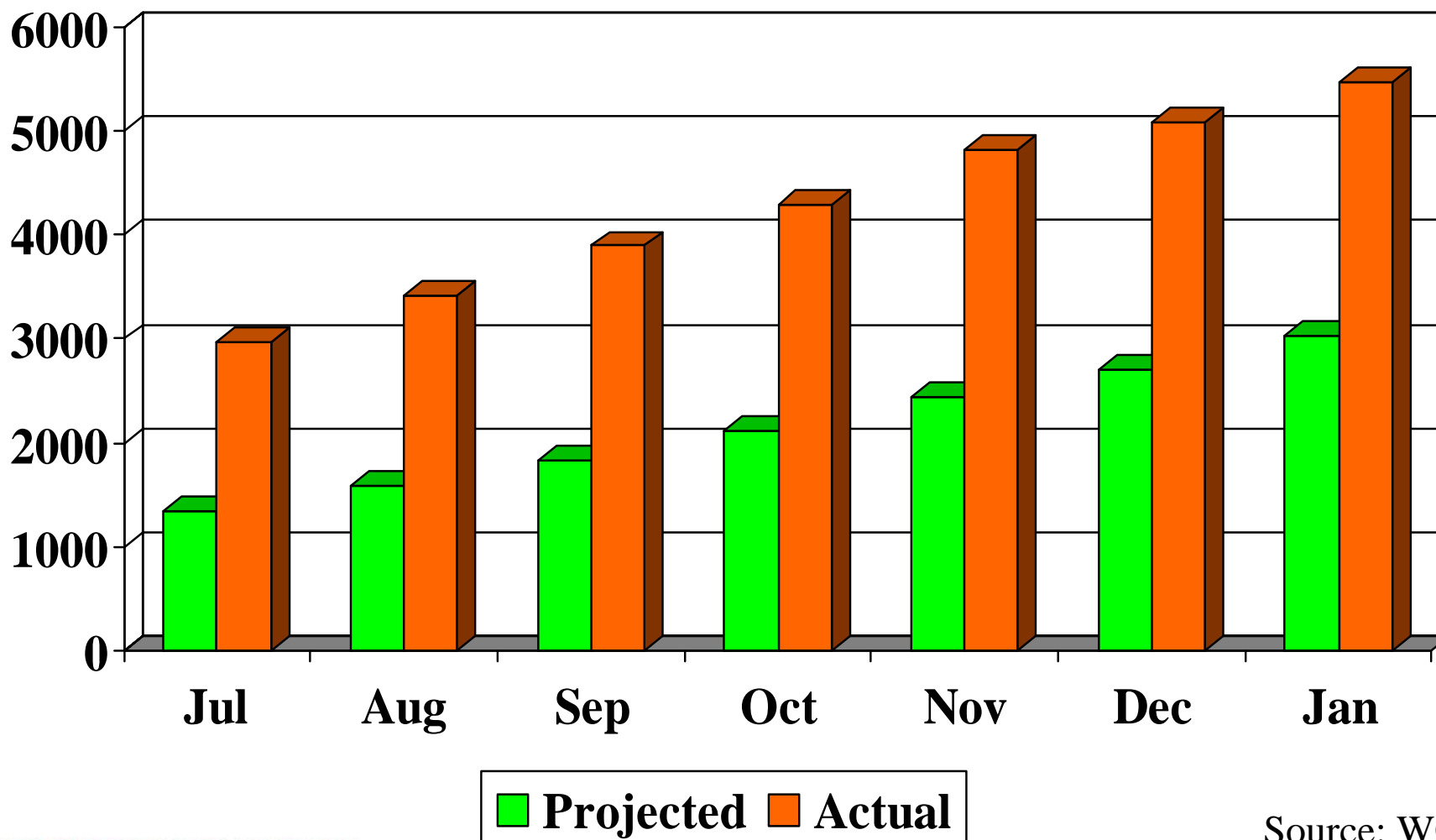
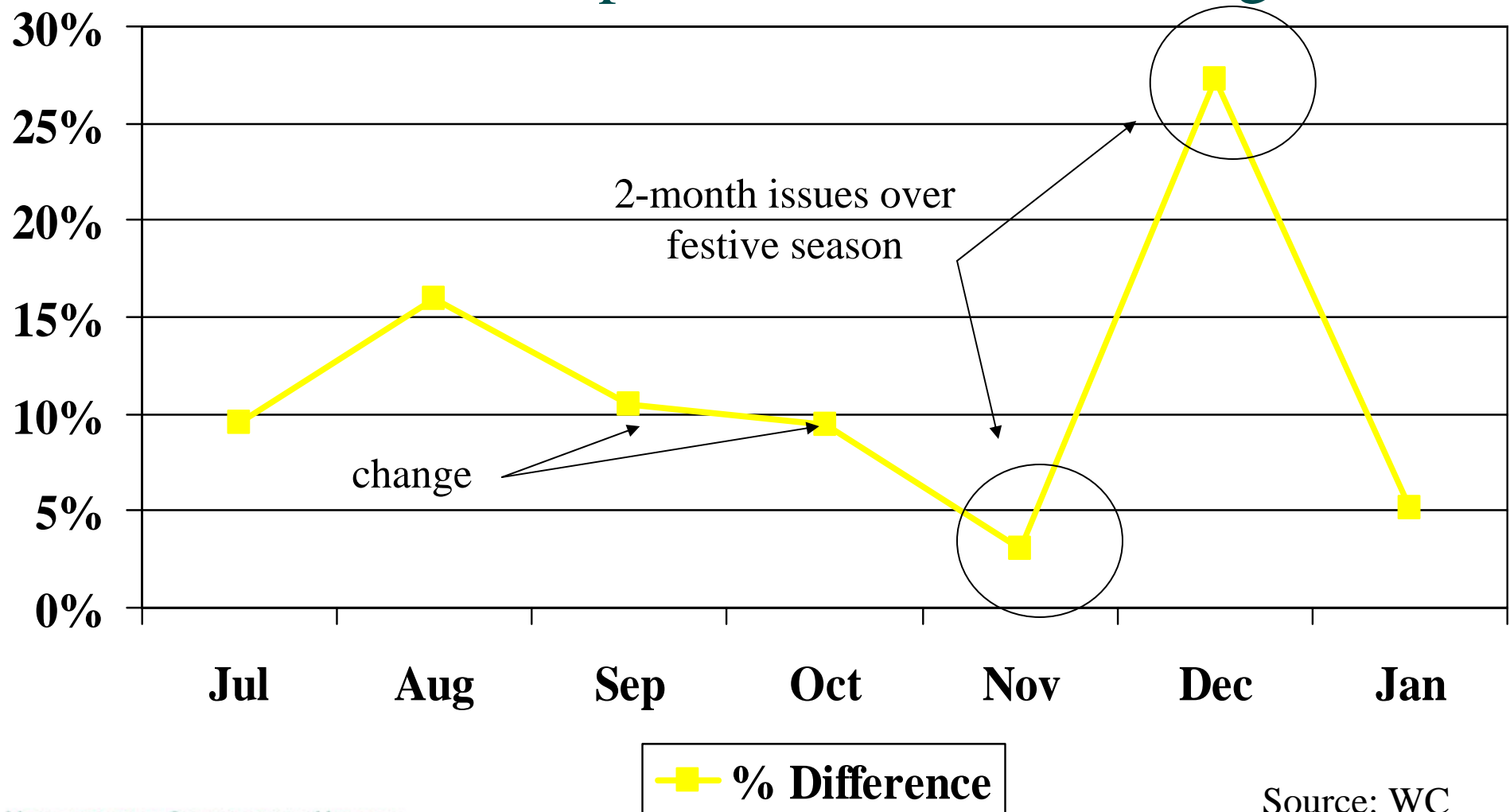
Source: WC

Forecast vs. Consumption: Stavudine 30mg
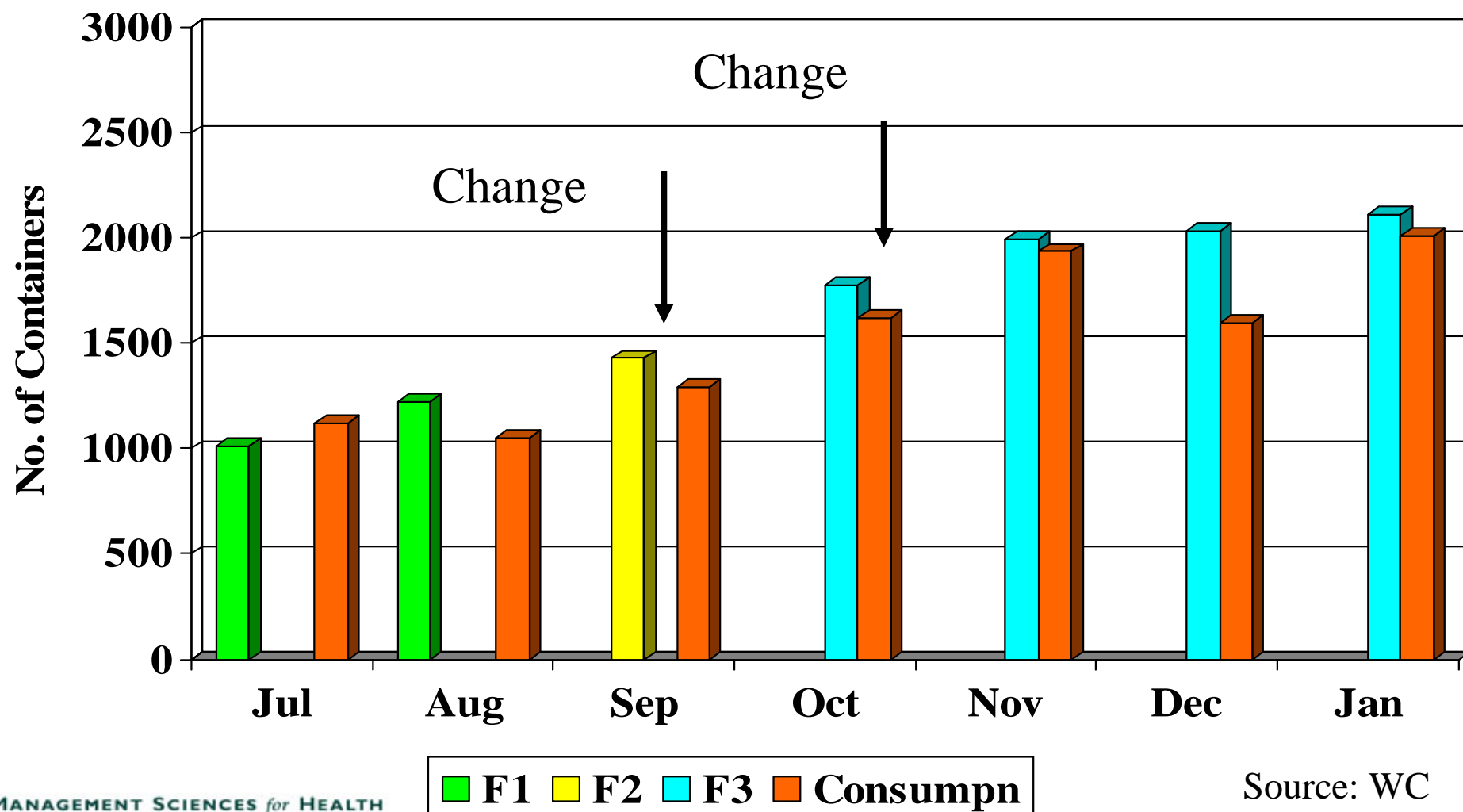
Results: Adult Forecasting Variations

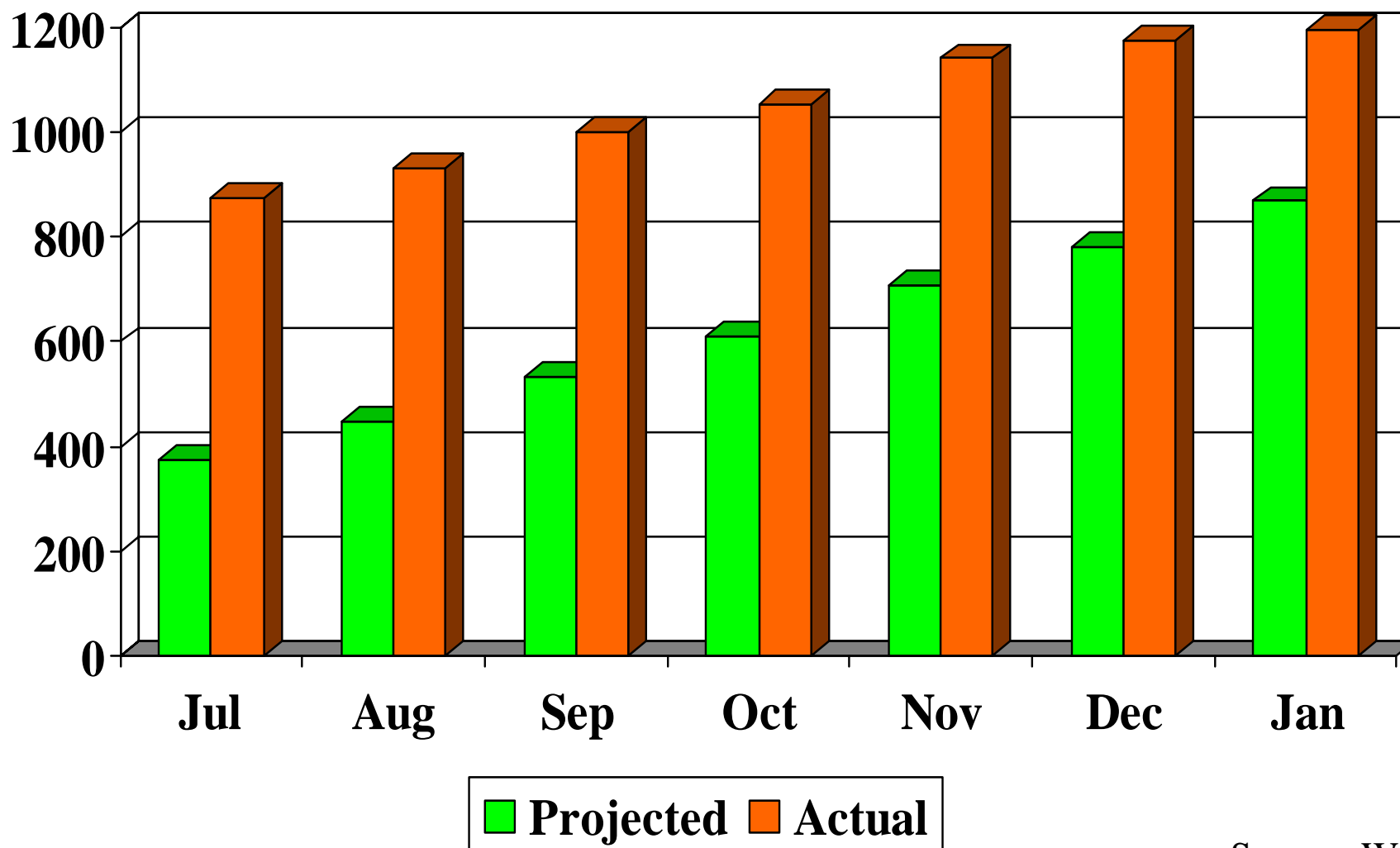| d4T 30mg	Jul	Aug	Sep	Oct	Nov	Dec	Jan
F 1	-9.56%	15.94%	11.91%	4.62%	1.6%	36.63%	17.26%
F 2	change ⟶		10.52%	19.85%	9.29%	42.94%	22.19%
F 3	change ⟶			9.49%	3.05%	27.31%	5.12%
% Diff	-9.56%	15.94%	-1.39%	-10.36%	-6.24%	-15.63%	-17.07%

Percentage variation between forecast & actual consumption of Stavudine 30mg
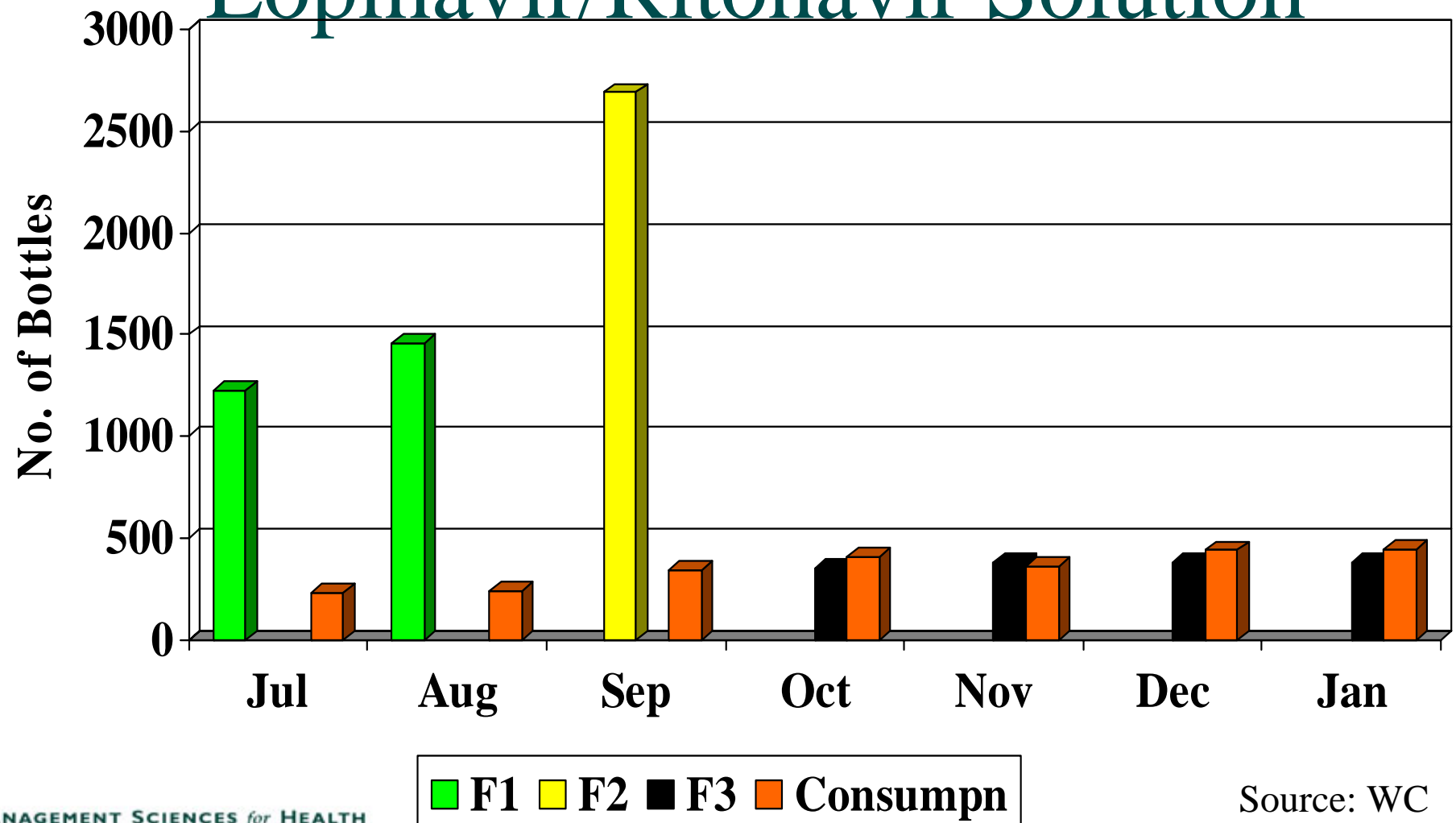

Source: WC

Paediatric patient numbers

Source: WC

Forecast vs Consumption: Lopinavir/Ritonavir Solution
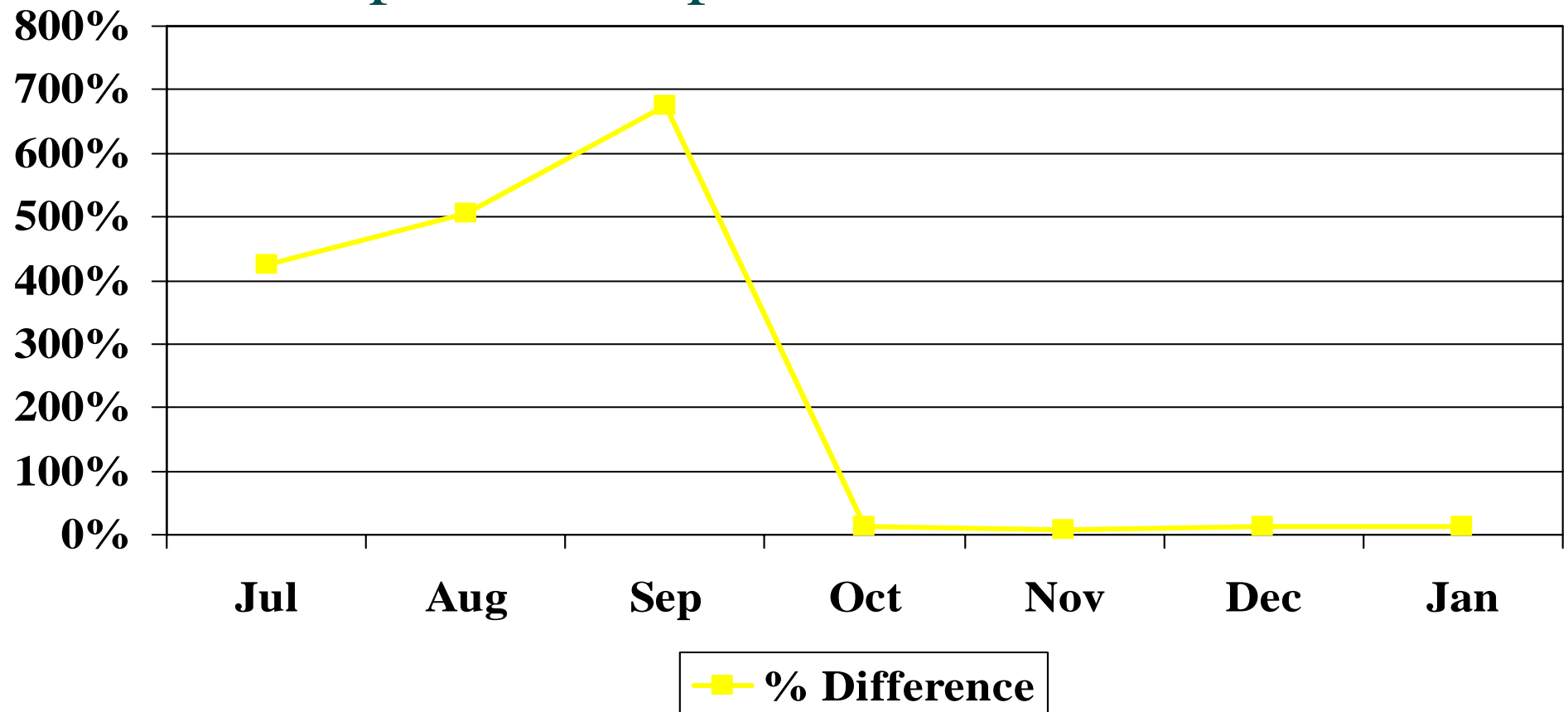

Source: WC

Paediatric Forecasting Variations

Lop/rit soln	Jul	Aug	Sep	Oct	Nov	Dec	Jan
F 1	424.79%	506.64%	400.86%	386.31%	537.67%	477.55%	534.16%
F 2	change →		674.64%	584.60%	711.08%	587.07%	600.22%
F 3	change →			-13.20%	6.65%	-13.15%	-13.48%
% Diff	424.8%	506.6%	273.8%	-571.4%	-704.4%	-573.9%	-586.7%

Percentage variation between forecast & actual consumption of Lopinavir/Ritonavir solution

Key Elements of Quantification

- Monitor

- Assess

- Respond

The ARVs Quantification Tool

- What You Need to Know - Input
  - ~ Estimated Number of Patients
  - ~ Estimated Monthly Patient's Intake
  - ~ Distribution of Patients Among the Various Regimen
  - ~ Distribution of Medicines for Each Regimen

- Excel Spreadsheet divided in several worksheets - Output
  - ~ Adult Treatments
  - ~ Peadiatric Treatments
  - ~ Summary Forecast
  - ~ Quantities to Order
  - ~ Monitoring Sheet